

Abstract

A processing gas constituted of CH₂F₂, O₂ and Ar is introduced into a processing chamber 102 of a plasma processing apparatus 100. The flow rate ratio of the constituents of the processing gas is set at CH₂F₂/O₂/Ar = 20sccm/10sccm/100sccm. The pressure inside the processing chamber 102 is set at 50mTorr. 500 W high frequency power with its frequency set at 13.56 MHz is applied to a lower electrode 108 on which a wafer W is placed. The processing gas is raised to plasma and thus, an SiN_x layer 206 formed on a Cu layer 204 is etched. The exposed Cu layer 204 is hardly oxidized and C and F are not injected into it.

2011TELE00009/U